WHAT IS CLAIMED IS:

Sub A3

1. A method for assigning traffic buckets to a cache system, the method comprising:

when a new cache system starts up in a cache cluster having a plurality of total buckets, determining a full bucket allocation for the new cache system;

assigning buckets to the new cache system using a first technique when the cache cluster is not operating at a maximum load; and

assigning buckets to the new cache system using a second technique that differs from the first technique, wherein the second technique is performed after the first technique.

2. A method as recited in claim 1 further comprising assigning the full bucket allocation to the new cache system when the cache cluster is operating at a maximum load.

3. A method as recited in claim 1 further comprising assigning buckets to the new cache system based on a first technique when the cache cluster is not operating at a maximum load.

4. A method as recited in claim 1, the first technique comprising:

periodically monitoring a load of the new cache system

when the new cache system is overloaded, shedding a minimum number of buckets from the new cache system; and

when the new cache system is underloaded, adding the minimum number of buckets to the new cache system.

5. A method as recited in claim 4 further comprising:

periodically monitoring a load of each of the other cache systems within the cache cluster;

when any of the other cache system is overloaded, shedding the minimum number of buckets from the overloaded other cache system; and

when any of the other cache system is underloaded, adding the minimum number of buckets to the underloaded other cache system.

6. A method as recited in claim 5, wherein the minimum number of buckets equals a single bucket.

7. A method as recited in claim 4 wherein the second technique is performed until the full allocation has been assigned to the new cache system or a minimum number of buckets have been added to or shed from the new cache system, the second technique comprising:

initially assigning a portion of the full bucket allocation to the new cache system;

Sub A3

when the new cache system is overloaded and when no buckets have been previously shed, periodically shedding a portion of the assigned buckets from the new cache system;

when the new cache system is overloaded and when buckets have been previously shed, periodically shedding a portion of a number of buckets that were previously shed from the new cache system;

when the new cache system is not overloaded and when no buckets have been previously shed, periodically assigning a portion of the unassigned buckets to the new cache system; and

when the new cache system is not overloaded and when buckets have been previously shed, periodically assigning a portion of a number of buckets that were previously shed from the new cache system.

8. A method as recited in claim 7 wherein buckets are periodically assigned or shed about every 30 seconds.

9. A method as recited in claim 7 wherein the portion of the number of buckets that were previously shed from the new cache system, the portion of the unassigned buckets, and the portion of the assigned buckets are equal to a half portion.

10. A method as recited in claim 1 further comprising:

when an existing cache system leaves the cache cluster or shuts down, determining a new bucket allocation for each of the remaining cache systems; and

assigning buckets to the remaining cache system using the first technique.

11. A method as recited in claim 7 further comprising:

when an existing cache system leaves the cache cluster or shuts down, determining a new bucket allocation for each of the remaining cache systems; and

assigning buckets to the remaining cache system using the first technique.

12. A method as recited in claim 1, wherein the full bucket allocation is equal to a number of buckets allocated to each existing cache system within the cache cluster.

13. A method as recited in claim 1, wherein the full bucket allocation is not equal to a number of buckets allocated to each existing cache system within the cache cluster.

14. A method as recited in claim 13, further comprising receiving a weight value from the new cache system indicating a percentage of the total buckets to allocate the new cache system.

Sub A3 7

15. A method as recited in claim 7 further comprising:

receiving load information from the new cache, the load information indicating whether the new cache system is overloaded; and

using the load information to determine whether the new cache is overloaded.

16. A method as recited in claim 15 wherein load information is periodically received from the new cache system.

17. A method as recited in claim 15 wherein the load information further indicates a number of buckets to shed or add, wherein the portion of the number of buckets that were previously shed from the new cache system, the portion of the unassigned buckets, and the portion of the assigned buckets are equal to the indicated number of buckets to shed or add.

18. A computer system operable to assign traffic buckets to a cache system, comprising:

a memory; and

a processor coupled to the memory,

wherein at least one of the memory and the processor are adapted to provide:

when a new cache system starts up in a cache cluster having a plurality of total buckets, determining a full bucket allocation for the new cache system;

assigning buckets to the new cache system using a first technique when the cache cluster is not operating at a maximum load; and

assigning buckets to the new cache system using a second technique that differs from the first technique, wherein the second technique is performed after the first technique.

19. A computer system as recited in claim 18, wherein at least one of the memory and the processor are further adapted to provide:

assigning the full bucket allocation to the new cache system when the cache cluster is operating at a maximum load.

20. A computer system as recited in claim 18, wherein at least one of the memory and the processor are further adapted to provide:

periodically monitoring a load of the new cache system

when the new cache system is overloaded, shedding a minimum number of buckets from the new cache system; and

when the new cache system is underloaded, adding the minimum number of buckets to the new cache system.

Sub A3

21. A computer system as recited in claim 20, wherein the second technique is performed until the full allocation has been assigned to the new cache system or a minimum number of buckets have been added to or shed from the new cache system, the second technique comprising:

initially assigning a portion of the full bucket allocation to the new cache system;

when the new cache system is overloaded and when no buckets have been previously shed, periodically shedding a portion of the assigned buckets from the new cache system;

when the new cache system is overloaded and when buckets have been previously shed, periodically shedding a portion of a number of buckets that were previously shed from the new cache system;

when the new cache system is not overloaded and when no buckets have been previously shed, periodically assigning a portion of the unassigned buckets to the new cache system; and

when the new cache system is not overloaded and when buckets have been previously shed, periodically assigning a portion of a number of buckets that were previously shed from the new cache system.

22. A computer system as recited in claim 21 wherein the portion of the number of buckets that were previously shed from the new cache system, the portion of the unassigned buckets, and the portion of the assigned buckets are equal to a half portion.

Sub A3

23. A computer system as recited in claim 21 wherein at least one of the memory and the processor are further adapted to provide:

when an existing cache system leaves the cache cluster or shuts down, determining a new bucket allocation for each of the remaining cache systems; and

assigning buckets to the remaining cache system using the first technique.

24. A computer system as recited in claim 18 wherein at least one of the memory and the processor are further adapted to provide:

when an existing cache system leaves the cache cluster or shuts down, determining a new bucket allocation for each of the remaining cache systems; and

assigning buckets to the remaining cache system using the first technique.

25. A computer program product for assigning traffic buckets to a cache system, the computer program product comprising:

at least one computer readable medium;

computer program instructions stored within the at least one computer readable product configured to cause a processing device to:

when a new cache system starts up in a cache cluster having a plurality of total buckets, determine a full bucket allocation for the new cache system;

sub A3

assign buckets to the new cache system using a first technique when the cache cluster is not operating at a maximum load; and

assign buckets to the new cache system using a second technique that differs from the first technique, wherein the second technique is performed after the first technique.